

3. Install the valve spring retainer.
4. Compress the valve springs with a compressor tool (Figure 50) and install the valve keepers.

#### CAUTION

*To avoid loss of spring tension, do not compress the springs any more than necessary to install the keepers.*

5. After all springs have been installed, gently tap the end of the valve stems with a soft aluminum or brass drift and hammer. This will ensure that the keepers are properly seated.

#### Valve Guide Replacement

When valve guides are worn so that there is excessive stem-to-guide clearance or valve tipping, the guides must be replaced. Replace both, even if only one is worn. This job should only be done by a dealer as special tools are required. If the valve guides are replaced, replace both valves also.

#### Valve Seat Reconditioning

This job is best left to a dealer or qualified machine shop. They have special equipment and knowledge for this exacting job. You can still save considerable money by removing the cylinder head and taking the head to the shop for repairs.

#### Valve Lapping or Grinding

Valve lapping or grinding the valves is not recommended as the valve face may be coated with a special material. Lapping or grinding the valve will remove this surface and will lead to almost instant valve failure. *Do not* lap or grind the valves.

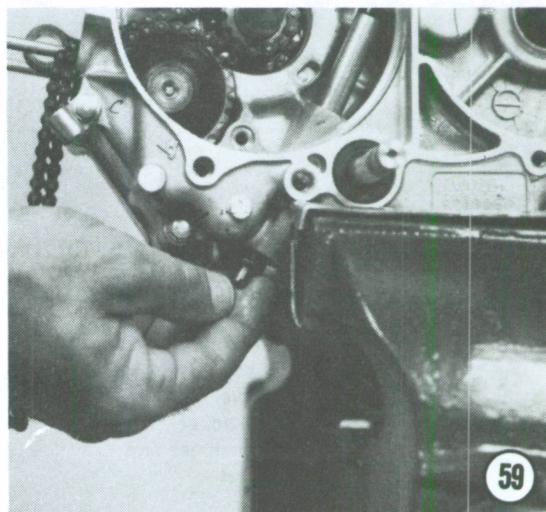
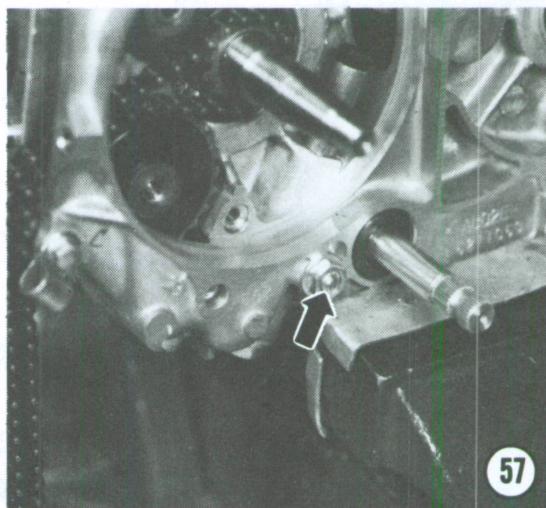
### CAMSHAFT CHAIN AND TENSIONER

#### Removal/Installation (70 cc Engines)

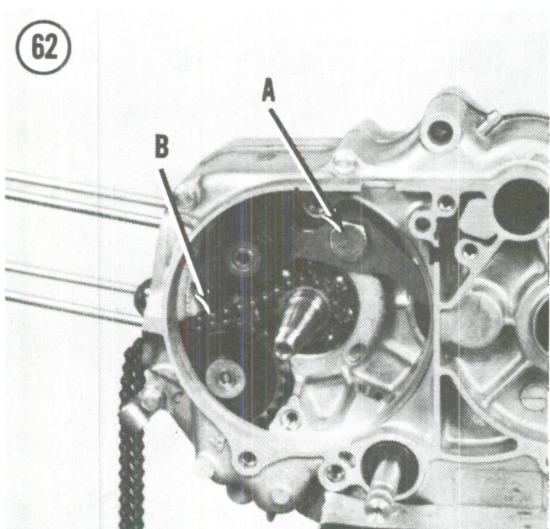
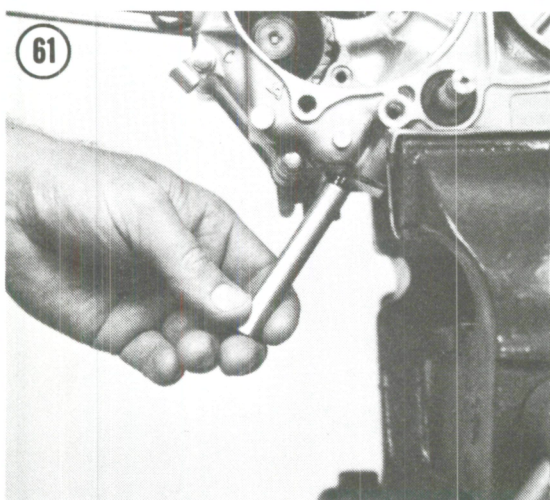
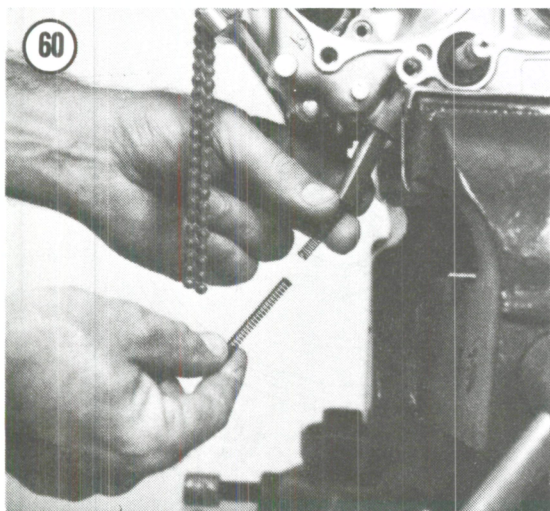
This procedure is shown with the engine removed from the frame for clarity. All components can be removed with the engine in the frame.

Refer to Figure 56 for this procedure.

1. Remove the cylinder head and cylinder as described in this chapter.
2. Remove the alternator rotor and stator assembly as described in Chapter Seven.
3. Loosen the cam chain tensioner locknut and unscrew the adjust bolt (Figure 57).
4. Unscrew the sealing bolt (Figure 58) and, on models so equipped, unscrew the tensioner adjust screw (Figure 59).







5. Remove the springs (Figure 60) and the pushrod (Figure 61).
6. Remove the bolt (A, Figure 62) securing the tensioner arm and remove the tensioner arm and the roller.
7. Remove the cam chain (B, Figure 62).
8. Inspect all components as described in this chapter.
9. Install by reversing these removal steps, noting the following.
10. Apply fresh engine oil to all components prior to installation.
11. Adjust the cam chain tensioner as described in Chapter Three.

#### Removal/Installation (90-125 cc Engines)

Refer to Figure 63 for this procedure.

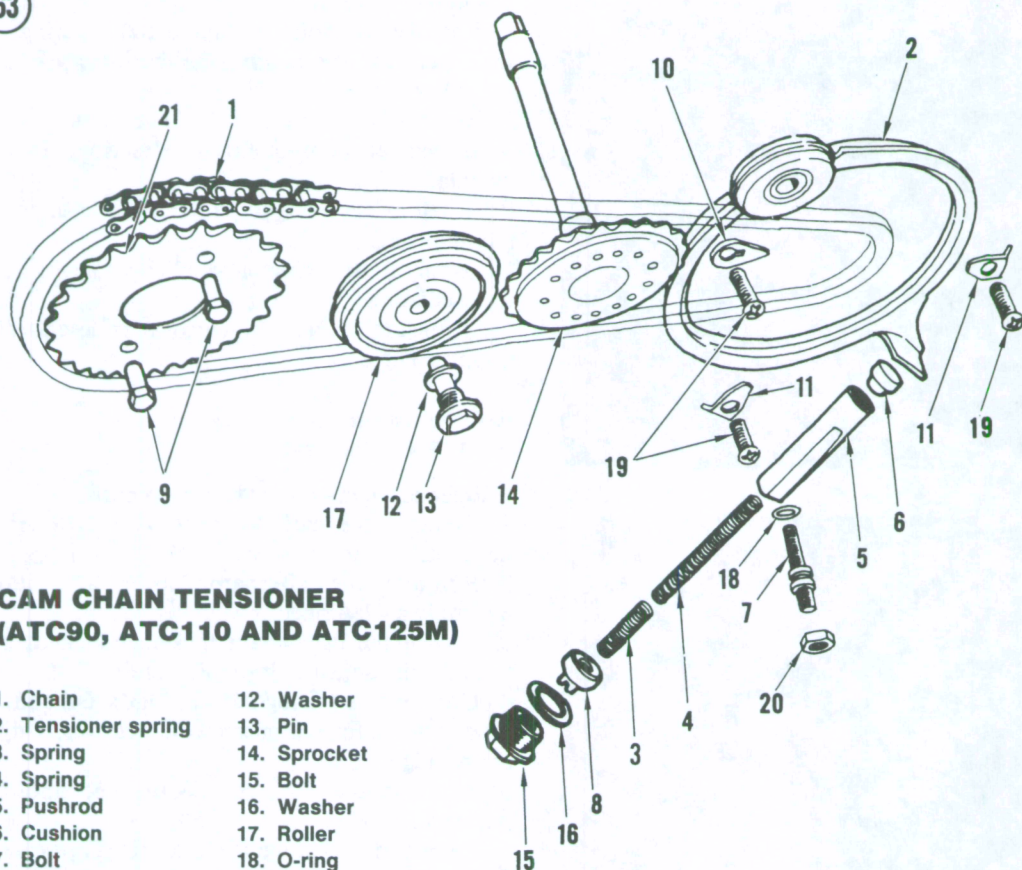
1. Remove the cylinder head and cylinder as described in this chapter.
2. Remove the alternator rotor and stator assembly as described in Chapter Seven.
3. Loosen the cam chain tensioner locknut and unscrew the adjust bolt (A, Figure 64).
4. Unscrew the sealing bolt (B, Figure 64) and, on models so equipped, unscrew the tensioner adjust screw (Figure 65).
5. Remove the springs (Figure 66) and the pushrod (Figure 67).
6. Remove the chain guide sprocket (Figure 68).
7. Remove the cam chain (A, Figure 69).
8. Remove the screw securing the set plates (B, Figure 69) and remove the tensioner assembly (C, Figure 69).
9. Inspect all components as described in this chapter.
10. Install by reversing these removal steps, noting the following.
11. Apply fresh engine oil to all components prior to installation.
12. Slightly rotate the chain guide sprocket assembly so the notch in the shaft will mesh with the raised tab on the oil pump rotor shaft (located within the crankcase on the opposite side of the engine).
13. Adjust the cam chain tensioner as described in Chapter Three.

#### Inspection (All Models)

1. Clean all parts in solvent and thoroughly dry with compressed air.
- 2A. On 70 cc engines, inspect the cam sprocket, chain guide sprocket, roller and cam chain (Figure 70).

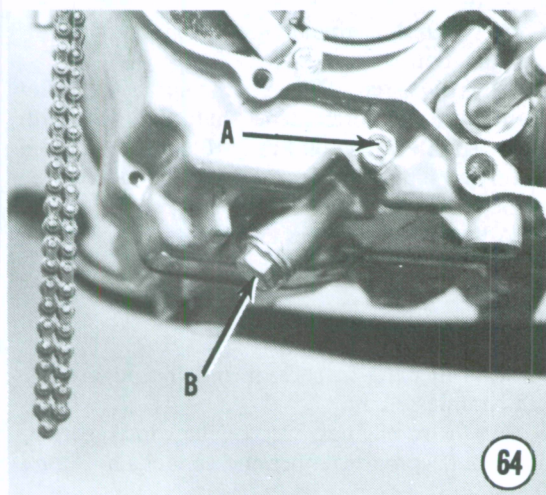


63

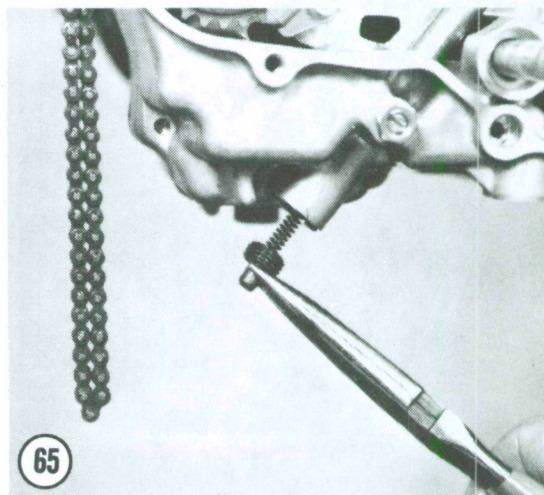


### CAM CHAIN TENSIONER (ATC90, ATC110 AND ATC125M)

- |                     |              |
|---------------------|--------------|
| 1. Chain            | 12. Washer   |
| 2. Tensioner spring | 13. Pin      |
| 3. Spring           | 14. Sprocket |
| 4. Spring           | 15. Bolt     |
| 5. Pushrod          | 16. Washer   |
| 6. Cushion          | 17. Roller   |
| 7. Bolt             | 18. O-ring   |
| 8. Adjusting screw  | 19. Screw    |
| 9. Bolt             | 20. Nut      |
| 10. Plate           | 21. Sprocket |
| 11. Plate           |              |

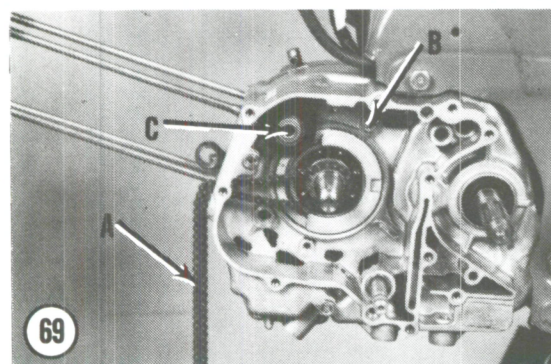
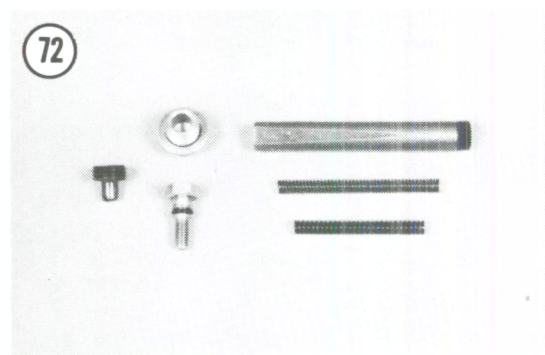
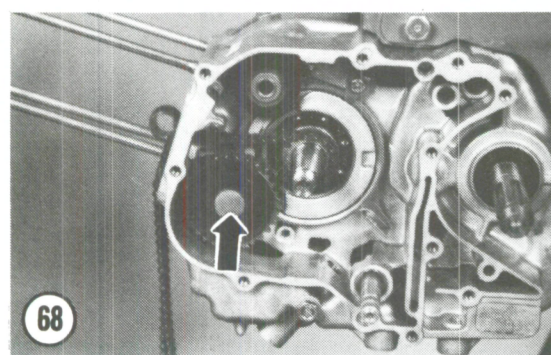
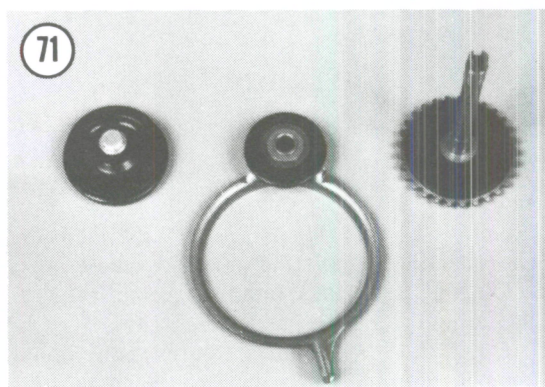
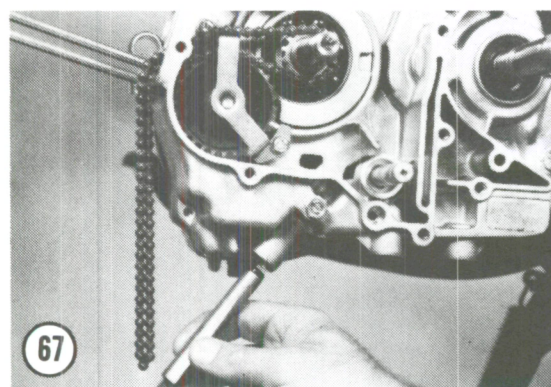
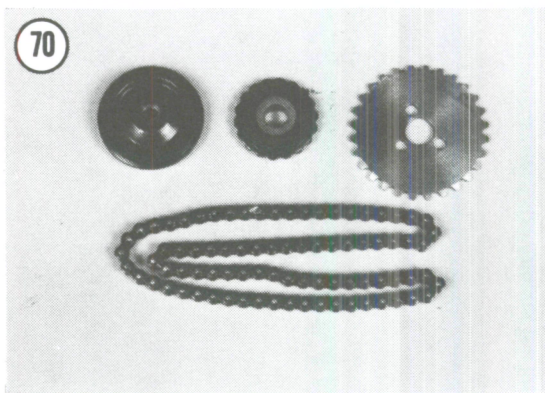
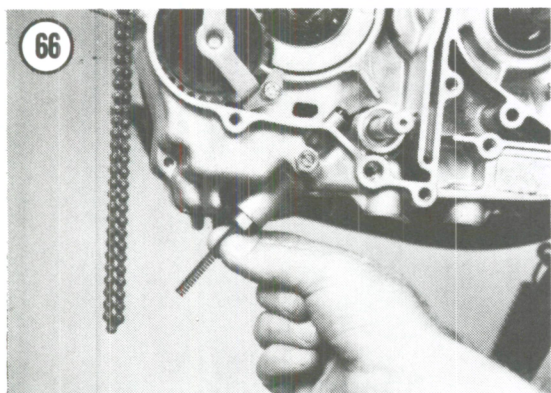


64



65



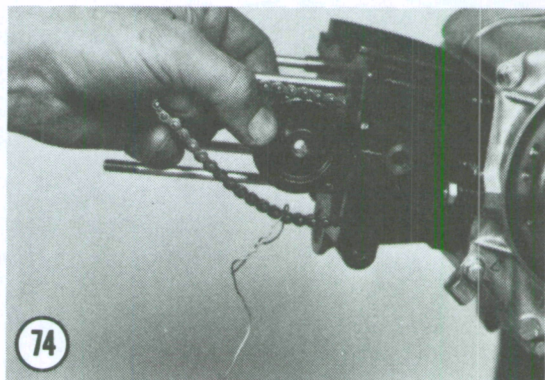
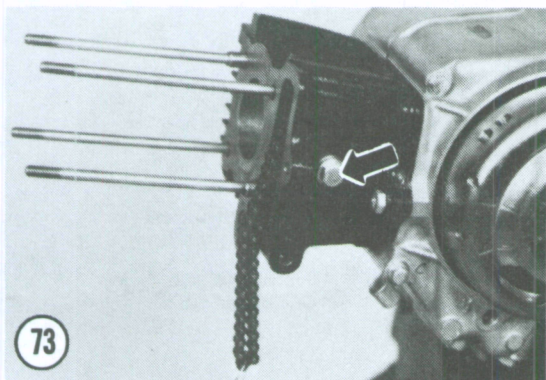


2B. On 90-125 cc engines, inspect the roller, tensioner assembly and the chain guide sprocket (Figure 71).

3. If any of the components are worn or any rubber-coated parts are starting to disintegrate, they must be replaced. If the cam chain is replaced it is a good idea to replace the sprocket at the same time and vice versa.

4. Inspect the tensioner pushrod and its related components for wear or damage (Figure 72). If the springs appear to be weak or if they are broken, they must be replaced. Replace both springs even if only one needs replacing. Make sure the cushion



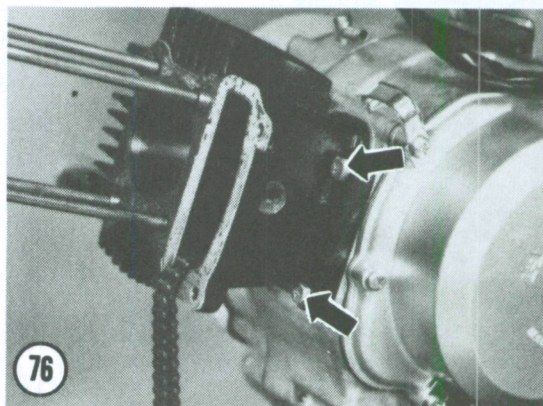
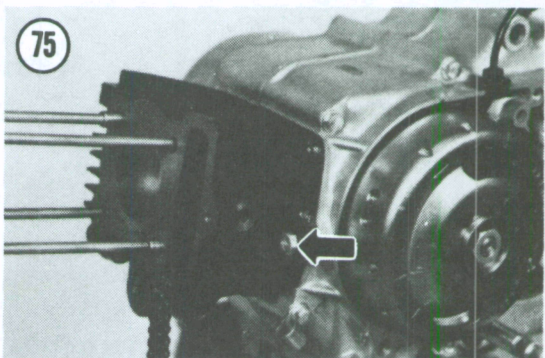


on the end of the pushrod is not worn or cracked; replace if necessary.

### CYLINDER

#### Removal

1. Remove the cylinder head as described in this chapter.
2. Remove the bolt (Figure 73) securing the cam chain roller and remove the roller (Figure 74).
- 3A. On ATC70 engines, remove the bolt (Figure 75) securing the cylinder to the crankcase.
- 3B. On ATC125M engines, remove the bolts (Figure 76) securing the cylinder to the crankcase.
4. Loosen the cylinder by tapping around the perimeter with a rubber or plastic mallet. If necessary, gently pry the cylinder loose with a broad-tipped screwdriver.
5. Pull the cylinder straight out and off of the crankcase studs. Work the cam chain wire through the opening in the cylinder.

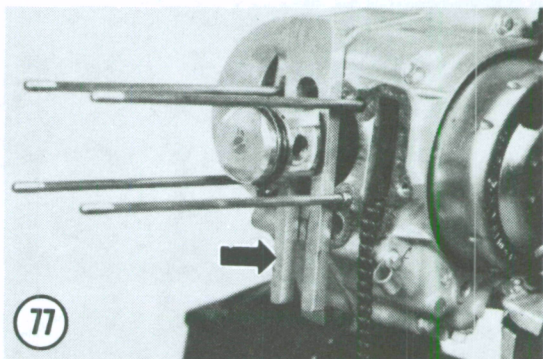


**NOTE**  
*Note the location of the locating dowels and O-ring seals prior to removing them. The location varies with different models and years. They must be installed on the same crankcase stud from which they were removed. If installed incorrectly, an oil leak will result.*

6. Remove the cylinder base gasket and discard it. Remove the dowel pins from the crankcase studs.
7. Install a piston holding fixture under the piston (Figure 77) to protect the piston skirt from damage. This fixture may be purchased or may be a homemade unit of wood. See Figure 78 for dimensions.

#### Inspection

The following procedure requires the use of highly specialized and expensive measuring





Copyright of Honda ATC, TRX, FOURTRX 70-125, 1970-1987 is the property of Penton Media, Inc. ("Clymer") and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.